

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

ENTROPIC COMMUNICATIONS, LLC,

Plaintiff,

V.

CHARTER COMMUNICATIONS, INC,

Defendant.

Case No. 2:23-cv-00051-JRG

ANSWER TO FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Defendant CHARTER COMMUNICATIONS, INC. (“Charter”) in response to the First Amended Complaint of Entropic Communications, LLC (“Plaintiff”), answer as follows:

GENERAL DENIAL

Defendant generally denies each and every allegation contained in the First Amended Complaint and further deny that Plaintiff was damaged in the nature alleged, or in any other manner, or at all.¹

1. Around the turn of the millennium, cable and satellite providers were eager to deploy new and improved services, but they faced a big problem. The providers needed a high-speed data network inside buildings to deliver those services to various rooms. With existing technology, this meant installing new cabling inside each premises to carry the network. Aside from the costly materials themselves, technicians would be forced to spend hours planning the work, cutting and drilling into walls, and fishing cables throughout a building, all while doing so in ways customers might tolerate. The costs would run into the billions of dollars.

ANSWER: The allegations of paragraph 1 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 1, and therefore denies the same.

2. A group of inventors had a vision: what if they could repurpose the already- existing coaxial cables common in buildings to do the job? The challenges were daunting. Existing coaxial cabling was never intended to work this way. The mess of existing coax topologies in homes and businesses was a formidable barrier. The splitter devices used to distribute legacy TV obstructed signals from room-to-room. Making it all work would require nothing less than the invention of a new networking architecture founded upon a host of new technologies.

¹ Charter’s Answer repeats the text of the allegations in Plaintiff’s First Amended Complaint for clarity as to which allegations Charter is responding to. Each of the claims and statements by Plaintiff that is not expressly admitted by Charter is hereby denied and should not be construed as an admission by Charter.

ANSWER: The allegations of paragraph 2 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 2, and therefore denies the same.

3. They succeeded. The inventors' company, called Entropic Communications Inc. ("Entropic Inc."), made the technology work. The company was awarded a portfolio of patents for the advances that made it possible. And the company spearheaded forming a new industry standard for the architecture, commonly called MoCA.

ANSWER: The allegations of paragraph 3 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 3, and therefore denies the same.

4. Today, MoCA is the backbone of data and entertainment services for tens of millions of customers. MoCA is widely used by every major provider in the industry, saving them billions of dollars in costs and avoiding the hassle of re-wiring for providers and customers alike. Unfortunately, the defendants take advantage of MoCA without paying appropriate licensing fees for the technology. This lawsuit is about redressing that wrong.

ANSWER: The allegations of paragraph 4 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 4, and therefore denies the same. Charter expressly denies any allegations of wrongdoing with regard to MoCA technology.

5. Key patents incorporating various elements of technology set forth in the Multimedia over Coax Alliance standards (the "MoCA" standards)² are U.S. Patent Nos. 7,295,518 (the "518 Patent"), 7,594,249 (the "249 Patent") (together the "Network Patents"); U.S. Patent Nos. 7,889,759 (the "759 Patent"), 8,085,802 (the "802 Patent") (together the "Node Admission Patents"); U.S. Patent Nos. 9,838,213 (the "213 Patent"), 10,432,422 (the "422 Patent") (together

² Each version of the MoCA standards are referred to herein as "MoCA 1.0," "MoCA 1.1," and "MoCA 2.0."

the “PQoS Flows Patents”); U.S. Patent Nos. 8,631,450 (the “’450 Patent”), 8,621,539 (the “’539 Patent”) (together the “Link Maintenance Patents”); U.S. Patent No. 8,320,566 (the “’0,566 Patent” or the “OFDMA Patent”); U.S. Patent No. 10,257,566 (the “’7,566 Patent” or the “Network Coordinator Patent”); U.S. Patent No. 8,228,910 (the “’910 Patent” or the “Packet Aggregation Patent”); U.S. Patent No. 8,363,681 (the “’681 Patent” or the “Clock Sync Patent”).

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 5, and therefore denies the same.

6. This is a civil action arising under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*, including specifically 35 U.S.C. § 271, based on defendant’s infringement of the ’213 Patent, the ’422 Patent, the ’0,566 Patent, the ’910 Patent, and the ’681 Patent² (collectively, the “Patents-in-Suit” or “Asserted Patents”).³

ANSWER: Charter admits that this purports to be a civil action arising under the patent laws of the United States and that it identifies the Patents-in-Suit. Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 6, and therefore denies the same.

THE PARTIES

7. Entropic is a Delaware limited liability company with an office at 7150 Preston Road, Suite 300, Plano, Texas 75024.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 7, and therefore denies the same.

³ Entropic has filed a second, related lawsuit in this Judicial District regarding Charter’s infringement of the ’518 and ’249 Patents; the ’759 and ’802 Patents; the ’450 and ’539 Patents; and the ’7,566 Patent.

8. Entropic is the owner by assignment to all right, title, and interest to the Patents-in-Suit. Entropic is the successor-in-interest for the Patents-in-Suit.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 8, and therefore denies the same.

9. Upon information and belief, Defendant Charter Communications, Inc. is a corporation established under the laws of the State of Delaware, with a principal place of business at 400 Washington St., Stamford, Connecticut 06902.

ANSWER: Charter admits that it is incorporated under the laws of the State of Delaware with a principal place of business at 400 Washington Blvd., Stamford, CT 06902. Charter denies the remaining allegations in paragraph 9 of the First Amended Complaint.

10. Charter Communications, Inc. has a registered agent in Texas, Corporation Service Company d/b/a CSC - Lawyers Incorporating Service Company, located at 211 East 7th Street, Suite 620, Austin, Texas 78701.

ANSWER: Charter admits that it has a registered agent, Corporation Service Company d/b/a CSC - Lawyers Incorporating Service Company, located at 211 East 7th Street, Suite 620, Austin, Texas 78701. Charter denies the remaining allegations in paragraph 10 of the First Amended Complaint.

11. According to its website, <https://corporate.charter.com/about-charter>, “Charter Communications, Inc. (NASDAQ:CHTR) is a leading broadband connectivity company and cable operator serving more than 32 million customers in 41 states through its Spectrum brand.”

ANSWER: Charter admits that the quote in paragraph 11 as of the filing of this Answer appears on the webpage <https://corporate.charter.com/about-charter>. Charter denies the remaining allegations in paragraph 11 of the First Amended Complaint.

12. Charter owns or leases, and maintains and operates several stores in this district by and through subsidiary limited liability companies that it manages and controls, including Spectrum Gulf Coast LLC, and negotiates and signs agreements on Spectrum Gulf Coast's behalf.

ANSWER: Charter admits that it has been appointed as the manager of different limited liability companies, and that a separate and distinct subsidiary owns or leases, and maintains and operates, the Spectrum stores in this District. Charter denies the remaining allegations in paragraph 12 of the First Amended Complaint.

13. Charter is the corporate manager of its subsidiary LLCs that own or lease property in this district, that employ employees in this district, and that own, store, sell, demonstrate, and lease equipment in this district. Charter has the right to exercise near total control of each entity's operations through its LLC agreements with each entity.

ANSWER: Charter admits that it has been appointed as the manager of different limited liability companies, and that a separate and distinct subsidiary employs personnel. Charter further admits that a separate and distinct subsidiary owns or stores equipment. The remaining allegations of paragraph 13 are too vague to be understood, and Charter denies the remaining allegations in paragraph 13 of the First Amended Complaint.

14. In each of those stores, Charter owns and stores equipment such as modems and set top boxes ("STBs"), including the Accused MoCA Instrumentalities (defined below) and demonstrates the Accused Services (defined below) provided via those products to Charter customers by and through subsidiary limited liability companies that it manages and controls.

ANSWER: Charter admits that it has been appointed as the manager of different limited liability companies, and that a separate and distinct subsidiary owns or stores equipment such as modems and set top boxes. Charter further admits that a separate and distinct subsidiary leases or

owns, and maintains and operates, the Spectrum stores in this District. Charter denies the remaining allegations in paragraph 14 of the First Amended Complaint.

15. Charter employs and/or contracts with persons and directs them to install, service, repair and/or replace equipment, as appropriate, in this district by and through subsidiary limited liability companies that it manages and controls.

ANSWER: Charter admits that it has been appointed as the manager of different limited liability companies, and that a separate and distinct subsidiary employs and/or contracts personnel that install, service, repair, and/or replace equipment. Charter denies the remaining allegations in paragraph 15 of the First Amended Complaint.

16. Charter is the corporate manager of its subsidiary LLCs that own or lease property in this district, that employ employees in this district, and that own, store, sell, demonstrate, and lease equipment in this district. Charter has the right to exercise near total control of each entity's operations through its LLC agreements with each entity.

ANSWER: Charter admits that it has been appointed as the manager of different limited liability companies, and that a separate and distinct subsidiary owns or leases Spectrum stores in this District. Charter further admits that a separate and distinct subsidiary owns and stores equipment and that a separate and distinct subsidiary employs personnel. Charter denies the remaining allegations in paragraph 16 of the First Amended Complaint.

17. As further alleged herein, this Court has personal jurisdiction over Charter, and venue is proper in this Judicial District.

ANSWER: This paragraph calls for legal conclusions for which no response is required. To the extent a response is required, Charter denies the allegations in paragraph 17 of the First Amended Complaint.

PRESUIT DISCUSSIONS

18. Prior to filing of this Complaint, Entropic sent a communication by physical means to Charter on April 27, 2022, in an attempt to engage Charter and/or its agents in good faith licensing discussions regarding Entropic's patent portfolio, including the Patents-in-Suit. On December 23, 2022 and January 2, 2023, Entropic sent Charter another communication by both physical and electronic means regarding a separate license to Entropic's patents for the field of the standardized networking technology commonly called MoCA, and also seeking to discuss with Charter a typical non-disclosure agreement in order to share such information.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022, on or around the same day it was sued by Entropic in an unrelated litigation, which did not mention MoCA. Charter further admits that it received a letter from Entropic on or around January 5, 2023 that raised MoCA for the first time but did not identify a single patent number. Charter responded to Entropic's January 5th letter on January 27, 2023 requesting that Entropic provide basic information including, but not limited to, the patent numbers and an explanation of how any Charter products allegedly infringe any Entropic patents. Rather than provide this basic information requested and proceed in good faith, Entropic filed this (and two other) additional complaints against Charter. Charter denies that any of Entropic's pre-suit correspondence with Charter was intended to engage in good faith licensing negotiations. Charter denies the remaining allegations of paragraph 18.

ENTROPIC'S LEGACY AS AN INNOVATOR

19. Entropic Inc., the predecessor-in-interest to Entropic as to the Patents-in- Suit, was founded in San Diego, California in 2001 by Dr. Anton Monk, Itzhak Gurantz, Ladd El Wardani and others. Entropic Inc. was exclusively responsible for the development of the initial versions of

the MoCA standards, including MoCA 1.0, ratified in 2006, MoCA 1.1, ratified in 2007, and was instrumental in the development of MoCA 2.0, ratified in 2010. It also developed Direct Broadcast Satellite (“DBS”) Outdoor Unit (“ODU”) single wire technology, and System-on-Chip (“SoC”) solutions for set-top boxes (STBs) in the home television and home video markets.

ANSWER: Charter admits that Entropic Inc. was a member of MoCA at least during the development of MoCA 1.0, 1.1, and 2.0 and during the ratification of MoCA 1.0 and 1.1. Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 19 of the First Amended Complaint, and therefore denies the same.

20. Under the technical guidance of Dr. Monk, Entropic Inc. grew to be publicly listed on the NASDAQ in 2007. After the public listing, the company acquired RF Magic, Inc. in 2007, a company specializing in DBS ODU technology and related hardware.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 20 of the First Amended Complaint, and therefore denies the same.

21. Additional growth between 2007 and 2015 bolstered the technical expertise of Entropic Inc. with respect to signal acquisition, stacking, filtering, processing, and distribution for STBs and cable modems.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 21 of the First Amended Complaint, and therefore denies the same.

22. For years, Entropic Inc. pioneered innovative networking technologies, as well as television and internet related technologies. These technologies simplified the installation required to support wideband reception of multiple channels for demodulation, improved home internet

performance, and enabled more efficient and responsive troubleshooting and upstream signal management for cable providers. These innovations represented significant advances in the field, simplified the implementation of those advances, and reduced expenses for providers and customers alike.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 22 of the First Amended Complaint, and therefore denies the same.

23. In 2015, MaxLinear, Inc. (“MaxLinear”)—a leading provider of radio-frequency, analog, digital, and mixed-signal semiconductor solutions—acquired Entropic Inc., and the pioneering intellectual property developed by Dr. Monk and his team.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 23 of the First Amended Complaint, and therefore denies the same.

24. In 2021, Plaintiff Entropic was established and MaxLinear transferred to Entropic a portfolio of intellectual property representing the Entropic and MaxLinear innovation in the cable and satellite services markets.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 24 of the First Amended Complaint, and therefore denies the same.

MOCA® AND THE MOCA® STANDARDS

25. MoCA is an alliance of companies that operate in the field of technology associated with providing multimedia services, such as television operators, consumer electronics, manufacturers, semiconductor vendors, and original equipment manufacturers (OEMs). MoCA

has developed and published a standard governing the operation of devices using existing coaxial cable.

ANSWER: Charter admits that the Multimedia over Coax Alliance (“MoCA”) is an organization of members which publishes standards for providing multimedia services over coax cable. The remaining allegations of paragraph 25 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 25 of the First Amended Complaint, and therefore denies the same.

26. By the year 2000, cable and satellite providers were facing the problem of distributing services as data between the various locations in a dwelling where desired by customers. This would require a full digital network, capable of communication between any node in the network, in any direction. Traditional computer networking such as Ethernet provided some of the functionality, but the cabling necessary for Ethernet or the like was (and is) very expensive to install.

ANSWER: The allegations of paragraph 26 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 26 of the First Amended Complaint, and therefore denies the same.

27. At the time, millions of dwellings and businesses across the United States often already had existing coaxial cable (“coax”) deployed throughout the premises to provide traditional television programming services to various rooms. However, this cabling was not designed or envisaged as a two-way and point-to-point network, nor a network capable of carrying high speed digital data traffic. The coax was deployed as a “tree” topology which simply splits the signal coming from an external source (the cable or satellite feed) for distribution of video content to the various locations on the premises in the “downlink” direction only. Thus, it was impossible to simply use this existing cable to make the new point-to-point high-quality network connections between devices located on the premises desired by the cable and satellite providers.

ANSWER: The allegations of paragraph 27 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations, and therefore denies the same.

28. Entropic Inc. tackled the problem and managed what was considered unlikely or impossible—to make a high-speed point-to-point digital communication network using existing coax installations. This required substantial inventive effort that is embodied by the Patents-in-Suit. For example, one of the significant challenges faced by Entropic Inc. was the varying nature of the exact topology of existing on-premises coax infrastructure that a network architecture would have to handle. The topology and types of devices (such as passive or active splitters, their characteristics, etc.) greatly influence the environment for signals transferred from node to node.

ANSWER: The allegations of paragraph 28 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations, and therefore denies the same.

29. Entropic Inc. later founded an organization to standardize the networking architecture and promote its use. This became known as the Multimedia over Coax Alliance, or “MoCA.” That acronym has also come into common usage as the name given to the networking architecture itself—now embodied in the MoCA standards. The technology defined in the MoCA standards enables the point-to-point high-quality network so badly needed by cable and satellite providers. Crucially it also provides the operators the ability to deploy their services without the enormously costly effort of installing Ethernet or similar cabling to carry the data.

ANSWER: Charter admits the acronym MoCA refers to the Multimedia over Coax Alliance and that MoCA had published standards for providing multimedia services over coax cable. The remaining allegations of paragraph 29 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 29 of the First Amended Complaint, and therefore denies the same.

30. There have been several iterations of the MoCA standards, beginning with MoCA 1.0, which was ratified in 2006. Since 2006, MoCA has ratified subsequent versions of the MoCA standards, including MoCA 1.1 and MoCA 2.0.

ANSWER: Charter admits that MoCA has published various versions of its standards, including MoCA 1.0, MoCA 1.1, and MoCA 2.0. Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 30 of the First Amended Complaint, and therefore denies the same.

31. The MoCA standards ensure network robustness along with inherent low packet error rate performance and very low latency that is relatively independent of network load. The logical network model of the MoCA network is significantly different from the underlying on-premises legacy coaxial network. For example, due to the effects of splitter jumping and reflections, the channel characteristics for a link between two MoCA nodes may be dramatically different from a link between any other two MoCA nodes.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 31 of the First Amended Complaint, and therefore denies the same.

32. **The Network Patents (the '518 and '249 Patents) and the OFDMA Patent (the '0,566 Patent)** describe MoCA networks, including how data communicated via MoCA networks is modulated by full-mesh pre-equalization techniques known as Adaptive Constellation Multitone (ACMT), a form of OFDM modulation.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 32 of the First Amended Complaint, and therefore denies the same.

33. As described in the **Network Coordinator Patent (the '7,566 Patent) and the Node Admission Patents (the '759 and '802 Patents)**, a particular MoCA node, known as a Network Coordinator, controls the admission of nodes to the MoCA Network. The Network Coordinator sends out a variety of data packets using a modulation profile that all the MoCA nodes

can receive. For broadcast and multicast transmissions, a broadcast bitloading profile can be calculated and used for each node receiving the transmissions in the MoCA network.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 33 of the First Amended Complaint, and therefore denies the same.

34. MoCA nodes use a modulation profile for every point-to-point link. A variety of probe messages are transmitted by the MoCA nodes and used to create modulation profiles, optimize performance, and allow for various calibration mechanisms. In order to maintain network performance as network conditions change, the MoCA standards define techniques to maintain optimized point-to-point and broadcast links between all of the MoCA nodes. The **Link Maintenance Patents (the '450 and '539 Patents)** describe link maintenance operations involving the processing of probe messages at regular intervals to recalculate parameters such as modulation profile and transmit power.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 34 of the First Amended Complaint, and therefore denies the same.

35. This MoCA network allows for devices (MoCA nodes) connected to a MoCA network to communicate data formatted in a variety of formats. **The Packet Aggregation Patent (the '910 Patent)**, for example, describes the communication of data packets in an Ethernet format, via the on-premises coaxial network without the need to deploy a separate physical network on the premises.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 35 of the First Amended Complaint, and therefore denies the same.

36. **The Clock Sync Patent (the '681 Patent)** describes the synchronization of the clocks of each MoCA node in the network with a master clock provided by the Network Coordinator as these transmissions are fully coordinated.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 36 of the First Amended Complaint, and therefore denies the same.

37. The MoCA standards and the **PQoS Flow Patents (the '213 and '422 Patents)** describe how particular MoCA nodes can request additional network resources and/or transmission opportunities. This allows the MoCA node to transfer data more quickly across the MoCA network by borrowing resources that have been scheduled to other MoCA nodes.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 37 of the First Amended Complaint, and therefore denies the same.

38. These technological developments enable users to avoid the significant costs associated with rewiring their home or business in order to deploy a number of devices throughout the premises. Further, these technological developments allow services requiring reliable, high-speed data and video communications to be provided to the user while utilizing the on-premises coaxial network already present in the user's home or business.

ANSWER: The allegations of paragraph 38 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 38 of the First Amended Complaint, and therefore denies the same.

39. Entropic Inc. spearheaded MoCA, and its founders are the inventors of several patents that cover various mandatory aspects of the MoCA standards. In other words, by conforming to the MoCA standards, a product necessarily practices those patents, either by itself, as a part of a MoCA-compliant system, or in the method in which it operates.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 39 of the First Amended Complaint, and therefore denies the same.

**THE ACCUSED MOCA INSTRUMENTALITIES AND
ACCUSED SERVICES**

40. Charter utilizes various instrumentalities, deployable as nodes in a MoCA-compliant coaxial cable network.

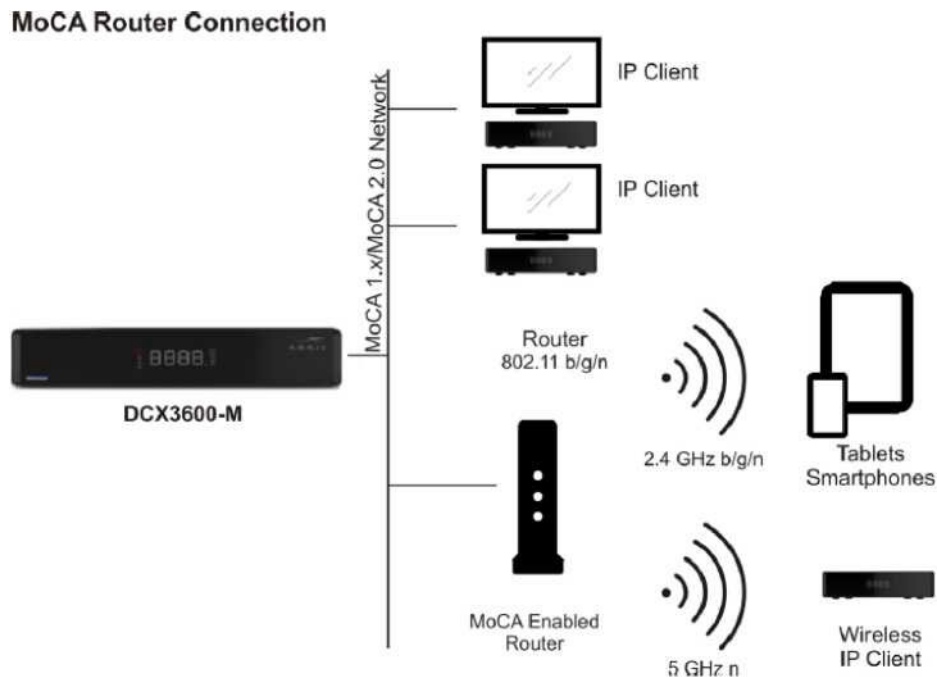
ANSWER: The allegations of paragraph 40 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 40 of the First Amended Complaint, and therefore denies the same.

41. Charter deploys the instrumentalities to, *inter alia*, provide a whole-premises DVR network over an on-premises coaxial cable network, with products including Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, Charter Arris DCX3200, Charter Arris DCX3220 (and devices that operate in a similar manner) serving as nodes operating with data connections compliant with MoCA 1.0, 1.1, and/or 2.0. Such components are referred to herein as the “Accused MoCA Instrumentalities.” The MoCA-compliant services offered by Charter employing the Accused MoCA Instrumentalities, including the operation of a MoCA-compliant network in which such instrumentalities are deployed, are referred to herein as the “Accused Services.”

ANSWER: The allegations of paragraph 41 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 41 of the First Amended Complaint, and therefore denies the same.

42. An exemplary illustration of the topology of various Accused MoCA Instrumentalities in a Charter deployment is pictured below.⁴

⁴ This is an example of the products used in the infringing network and is not intended to limit the scope of products accused of infringement.



ANSWER: Figure 5 - A Typical Mixed MoCA/WiFi Home Network

ANSWER: The allegations of paragraph 42 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 42 of the First Amended Complaint, and therefore denies the same.

43. Upon information and belief, the Accused MoCA Instrumentalities form networks over a coaxial cable network in accordance with MoCA 1.0, 1.1, and/or 2.0.

ANSWER: The allegations of paragraph 43 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 43 of the First Amended Complaint, and therefore denies the same.

44. Charter's business includes the provision of Accused Services to its customers, by means of the Accused MoCA Instrumentalities.

ANSWER: The allegations of paragraph 44 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 44 of the First Amended Complaint, and therefore denies the same.

45. Most commonly, the Accused Services are offered and provided in exchange for fees paid to Charter.

ANSWER: The allegations of paragraph 45 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 45 of the First Amended Complaint, and therefore denies the same.

46. Charter itself also sometimes tests and demonstrates the Accused Services, by means of the Accused MoCA Instrumentalities.

ANSWER: The allegations of paragraph 46 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 46 of the First Amended Complaint, and therefore denies the same.

47. In some deployments of the Accused MoCA Instrumentalities and the performance of the Accused Services, Charter uses one or more of: the Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, Charter Arris DCX3200, Charter Arris DCX3220 (and similarly operating devices) to provide signals, programming and content utilizing a data connection carried over a coaxial cable network in accordance with the MoCA standards.

ANSWER: The allegations of paragraph 47 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 47, and therefore denies the same.

48. Time Warner Cable was a cable television company acquired by Charter in or about 2016.

ANSWER: Charter admits that Time Warner Cable was a cable television company acquired by Charter in or around 2016.

49. In January 2011, Mike Hayashi, in his capacity as Time Warner Cable's executive vice president of advanced engineering, announced that "Entropic's commitment to MoCA 2.0

advancements assures Time Warner Cable that our early investments in MoCA can be seamlessly transitioned to customers' interests for new services, applications, and architectures.”⁵

ANSWER: Charter admits that the article cited by Entropic purports to include the quote in paragraph 49 of the Complaint attributed to Mike Hayashi. Charter lacks knowledge or information sufficient to form a belief about the truth of remaining allegations in paragraph 49, and therefore denies the same.

50. Upon information and belief, Mr. Hayashi and/or other authorized Time Warner personnel authorized the publication and attribution of the preceding quotation to Mr. Hayashi.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 50, and therefore denies the same.

51. Charter was aware of its deployment and use of MoCA at least as early as the later of its involvement with MoCA and six years prior to the filing of this complaint.

ANSWER: The allegations of paragraph 51 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 51, and therefore denies the same.

52. Upon information and belief, Charter was aware that Entropic Inc. invented technology underlying the MoCA standards. Accordingly, such Entropic, Inc. technology would be incorporated into any instrumentality compliant with the MoCA standards.

ANSWER: Charter denies the allegations in paragraph 52 of the First Amended Complaint.

⁵ <https://www.globenewswire.com/news-release/2011/01/06/437282/9308/en/Entropic-Communications-Unveils-World-s-First-MoCA-2-0-Solution.html>

53. Upon information and belief, Charter's predecessor-in-interest Time Warner Cable was a contributing member of MoCA from at least February 2010 through September 2016, which provided Time Warner full access to all then-existing versions of the MoCA standards.

ANSWER: Charter admits that its predecessor-in-interest Time Warner Cable was a member of MoCA since at least July 2008, which creates an obligation for Entropic to license its patents essential to MoCA standards, such as the Patents-in-Suit, on fair, reasonable, and non-discriminatory ("FRAND") terms. Charter denies the remaining allegations in paragraph 53 of the First Amended Complaint.

54. Upon information and belief, Charter and/or its subsidiaries was a contributing member of MoCA from at least September 2016 through September 2017, which provided Charter full access to all then-existing versions of the MoCA standards.

ANSWER: Charter admits that Charter by and through its indirectly and wholly owned affiliates was a member of MoCA since at least 2016, which creates an obligation for Entropic to license its patents essential to MoCA standards, such as the Patents-in-Suit, on fair, reasonable, and non-discriminatory ("FRAND") terms. Charter denies the remaining allegations in paragraph 54 of the First Amended Complaint.

55. Upon information and belief, Charter was aware that Entropic Inc. intended to and did pursue patent protection for technology related to MoCA, at least as early as the later of its involvement with MoCA and the issue date of the Asserted Patents.

ANSWER: Charter denies the allegations in paragraph 55 of the First Amended Complaint.

56. When Charter obtained, deployed and/or used instrumentalities with MoCA functionality not provided by Entropic Inc., Charter knew or should have known that Entropic Inc. had provided no authorization for such activities, for example by a patent license.

ANSWER: Charter denies the allegations in paragraph 56 of the First Amended Complaint.

57. Upon information and belief, when Charter obtained, deployed and/or used instrumentalities with MoCA functionality not provided by Entropic Inc., Charter failed to investigate whether Entropic Inc. authorized the use of Entropic Inc.'s patents for such activity.

ANSWER: The allegations of paragraph 57 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 57, and therefore denies the same.

58. Alternatively, upon information and belief, when Charter obtained, deployed and/or used instrumentalities with MoCA functionality not provided by Entropic Inc., Charter knew the use of Entropic Inc.'s patents for such activity was not authorized by Entropic Inc.

ANSWER: Charter expressly denies that it had pre-suit knowledge of the asserted patents. Charter denies the remaining allegations in paragraph 58 of the First Amended Complaint.

JURISDICTION AND VENUE

59. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a) because the claims herein arise under the patent laws of the United States, 35 U.S.C. § 1 et seq., including 35 U.S.C. § 271.

ANSWER: This paragraph contains legal conclusions for which no response is required. To the extent a response is required, Charter admits that this is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 1 et seq. Charter

admits that this Court has subject matter jurisdiction over the allegations as pleaded under 28 U.S.C. §§ 1331 and 1338(a). Except as expressly admitted, Charter denies the allegations in paragraph 59 of the First Amended Complaint.

60. Venue in this Judicial District of the Eastern District of Texas (“District”) is proper pursuant to 28 U.S.C. § 1400(b), because Charter has regular and established places of business in this Judicial District. Charter, by itself and/or through its agents, has committed acts of patent infringement within the State of Texas and in this Judicial District by making, importing, using, selling, offering for sale, and/or leasing the Accused MoCA Instrumentalities, as well as Accused Services employing the Accused MoCA Instrumentalities that comply with MoCA 1.0, 1.1, and/or 2.0.

ANSWER: This paragraph contains legal conclusions for which no response is required. *See* Case No. 2:23-cv-00050-JRG, Dkt. 66.

61. Charter, together with its controlled subsidiaries, is a cable operator that provides the Accused Services through the Accused MoCA Instrumentalities to subscribers under the Spectrum brand.

ANSWER: Charter admits that by and through its affiliates, it provides cable services to subscribers under the brand name “Spectrum.” Charter denies the remaining allegations in paragraph 61 of the First Amended Complaint.

62. Charter has represented in proceedings before the United States International Trade Commission that Charter, together with its controlled subsidiaries, is a cable operator that provides television services through digital set-top boxes to subscribers under the Spectrum brand.

ANSWER: The allegations of paragraph 62 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 62, and therefore denies the same.

63. This Court has general personal jurisdiction over Charter because Charter conducts systematic and regular business within the State of Texas by, *inter alia* providing cable television, internet, and phone services to businesses and residents throughout this State and this Judicial District.

ANSWER: Charter denies the allegations in paragraph 63 of the First Amended Complaint.

64. Charter has a regular and established place of business in this Judicial District at 1414 Summit Ave., Plano, Texas 75074.

ANSWER: Charter denies the allegations in paragraph 64 of the First Amended Complaint.

65. The Court has specific personal jurisdiction over Charter because it has committed acts of infringement within the State of Texas and this Judicial District through, for example, making infringing networks using the Accused MoCA Instrumentalities, and using the Accused MoCA Instrumentalities to provide the Accused Services in the State of Texas and this Judicial District.

ANSWER: Charter denies the allegations in paragraph 65 of the First Amended Complaint.

66. Upon information and belief, Charter, by itself and/or through its controlled subsidiaries, offers various telecommunication services throughout the United States. Charter operates and maintains a nationwide television and data network through which Charter sells,

leases, and offers for sale products and services, including the Accused MoCA Instrumentalities, to businesses, consumers, and government agencies. Through its subsidiaries, Charter offers to sell, sells, and provides Spectrum branded products and services, including, set top boxes and digital video, audio, and other content services to customers. Subscribers to Charter's television services receive one or more receivers and/or set-top boxes, within this Judicial District.

ANSWER: Charter admits that it by and through its affiliates provides telecommunication services throughout the United States. The remaining allegations of paragraph 66 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 66, and therefore denies the same.

67. Upon information and belief, the Accused Services are provided through and using the Accused MoCA Instrumentalities.

ANSWER: The allegations of paragraph 67 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 67, and therefore denies the same.


68. Upon information and belief, Charter by itself, and/or through its agents owns, and or operates its businesses through *inter alia*, offices, Spectrum-branded storefronts, and/or other operational locations within the State of Texas and this Judicial District including, for example, at Spectrum stores located at 700 Alma Dr., Plano, Texas 75075; 2100 N. Dallas Pkwy, Plano, Texas 75075; and 4255-A Dowlen Rd., Beaumont, Texas 77706. Charter holds out these locations as its own through the use of its Spectrum branding on the locations themselves.

ANSWER: Charter admits that a separate and distinct subsidiary owns and operates Spectrum stores located within the Eastern District of Texas at 700 Alma Dr., Plano, Texas 75075,

2100 N. Dallas Pkwy, Plano, Texas 75075, and 4255-A Dowlen Rd., Beaumont, Texas 77706. Charter denies the remaining allegations in paragraph 68 of this First Amended Complaint.

69. The Accused MoCA Instrumentalities provided by Charter to supply the Accused Services are provided to customers in this district and may be obtained by customers from physical locations in this district, including those at 700 Alma Dr., Plano, Texas 75075; 2100 N. Dallas Pkwy, Plano, Texas 75075; and 4255-A Dowlen Rd., Beaumont, Texas 77706.

ANSWER: Charter admits that a separate and distinct subsidiary owns and operates Spectrum stores in this District that offer television, phone, and internet services. Charter denies the remaining allegations in paragraph 69 of this First Amended Complaint.

70. Each of the above locations features the  logo. According to Charter's website, <https://corporate.charter.com/about-charter>, this logo refers to "a suite of advanced broadband services offered by Charter Communications, Inc."

ANSWER: Charter admits that the image contained in paragraph 70 of the First Amended Complaint feature the Spectrum logo. Charter also admits that the website <https://corporate.charter.com/about-charter> states, "Spectrum is a suite of advanced broadband services offered by Charter Communications, Inc." Except as expressly admitted, Charter denies the remaining allegations in paragraph 70 of this First Amended Complaint.

71. Upon information and belief, Charter, by itself, and/or through its agents own and/or lease the premises where these Spectrum stores are located.

ANSWER: Charter admits that a separate and distinct subsidiary owns or leases Spectrum stores in this District. The remaining allegations of paragraph 71 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 71, and therefore denies the same.

72. Upon information and belief, these Spectrum stores are staffed by persons directly employed by Charter, many of whom live in this Judicial District.

ANSWER: Charter admits that a separate and distinct subsidiary employs personnel related to the Spectrum stores in this District. The remaining allegations of paragraph 72 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 72, and therefore denies the same.

73. Upon information and belief, Charter has engaged in regular and established business at physical places within this Judicial District such as at these Spectrum stores.

ANSWER: Charter denies the allegations in paragraph 73 of the First Amended Complaint.

74. Upon information and belief, Charter employs and/or contracts with persons and directs them to install, service, repair, and/or replace equipment, as appropriate, in this Judicial District.

ANSWER: Charter admits that a separate and distinct subsidiary employs personnel that install, service, repair, and/or replace equipment. The remaining allegations of paragraph 74 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 74, and therefore denies the same.

75. Upon information and belief, in each of these stores and/or service centers, Charter owns and stores the Accused MoCA Instrumentalities and demonstrates the Accused Services provided via those products to Charter customers.

ANSWER: Charter admits that a separate and distinct subsidiary owns or stores equipment such as modems and set top boxes. The remaining allegations of paragraph 75 are too

vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 75, and therefore denies the same.

76. Upon information and belief, Charter's regular and established places of business within this Judicial District are used to conduct Charter's business, i.e. the provision of "Charter/Spectrum" cable television and internet services (which includes the Accused Services), and the maintenance and operation of communications networks within this Judicial District.

ANSWER: The allegations of paragraph 76 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 76, and therefore denies the same.

77. Venue is further proper because Charter has committed and continues to commit acts of patent infringement in this Judicial District, including, making, using, offering to sell, and/or selling Accused Services and Accused MoCA Instrumentalities, and MoCA networks, and thereafter providing Accused Services in this Judicial District, including by Internet sales and sales via retail and wholesale stores. Furthermore, for example, Charter deploys Accused MoCA Instrumentalities to many thousands of locations (customer premises) in this Judicial District and subsequently, by means of the Accused MoCA Instrumentalities, uses the claimed inventions at those locations in this Judicial District. Charter infringes by inducing and contributing to acts of patent infringement in this Judicial District and/or committing at least a portion of any other infringement alleged herein in this Judicial District.

ANSWER: This paragraph contains legal conclusions for which no response is required. *See* Case No. 2:23-cv-00050-JRG, Dkt. 66.

78. Charter continues to conduct business in this Judicial District, including the acts and activities described in the preceding paragraph.

ANSWER: The allegations of paragraph 78 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 78 of the First Amended Complaint, and therefore denies the same.

COUNT I

(Infringement of the '213 Patent)

79. Entropic incorporates by reference each allegation of Paragraphs 1 through 78.

ANSWER: Charter repeats and realleges as if fully set forth herein its responses to allegations in paragraph 1 to 78 of the First Amended Complaint.

80. The '213 Patent duly issued on December 5, 2017 from an application filed February 6, 2008, and, *inter alia*, a provisional application filed on February 6 2007.

ANSWER: Charter admits that the face of the '213 patent bears an issue date of December 5, 2017, a filing date of February 6, 2008, and lists related application data including a provisional application filed on February 6, 2007. Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 80, and therefore denies the same.

81. Entropic owns all substantial rights, interest, and title in and to the '213 Patent, including the sole and exclusive right to prosecute this action and enforce the '213 Patent against infringers, and to collect damages for all relevant times.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 81, and therefore denies the same

82. The '213 Patent is one of the PQoS Flows Patents, and is generally directed to, *inter alia*, low-cost and high-speed management of resources within a network in order to secure the capability to distribute multimedia data (such as video/audio, games, images, generic data, and

interactive services) between devices within existing on-premises coaxial cable networks. '213 Patent, col. 3, lines 46–53. The '213 Patent has 24 claims, of which claims 1, 13, and 23 are independent. At least these claims of the '213 Patent are directed to a variety of techniques for allocating resources for guaranteed quality of service flows in the MoCA network. A true and accurate copy of the '213 Patent is attached hereto as Exhibit 7.

ANSWER: Charter admits that Exhibit 7 purports to be a copy of the '213 patent. Charter admits that the '213 patent has 24 claims on its face, and that claims 1, 13, and 23 on the face of the '213 patent are independent claims. Charter denies the remaining allegations in paragraph 82.

83. The '213 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter denies the allegations in paragraph 83.

84. The '213 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter admits that under 35 U.S.C. § 282, “[a] patent shall be presumed valid.” Charter denies the remaining allegations in paragraph 84.

85. Charter deploys one or more of the Accused MoCA Instrumentalities (e.g. Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, Charter Arris DCX3200, Charter Arris DCX3220) in connection with operating and providing the Accused Services.

ANSWER: The allegations of paragraph 85 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 85, and therefore denies the same.

86. The Accused MoCA Instrumentalities deployed by Charter to customer premises remain the property of Charter while deployed.

ANSWER: The allegations of paragraph 86 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 86 of the First Amended Complaint, and therefore denies the same.

87. The Accused MoCA Instrumentalities operate while deployed in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 87 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 87 of the First Amended Complaint, and therefore denies the same.

88. As set forth in the attached non-limiting claim chart (Exhibit 8), any product or system operating in a MoCA network compliant with the charted provisions of MoCA 1.1, or 2.0 necessarily infringes at least claim 1 of the '213 Patent.

ANSWER: Charter admits that Exhibit 8 purports to be an "Exemplary Infringement Chart" relating to the '213 patent. Charter denies the remaining allegations in paragraph 88 of the First Amended Complaint. Charter further expressly denies any allegation of infringing on any claim of the '213 patent.

89. Each aspect of the functioning of the Accused MoCA Instrumentalities described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 89 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 89 of the First Amended Complaint, and therefore denies the same.

90. Charter provides no software, support or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused MoCA Instrumentalities while deployed to customer premises.

ANSWER: The allegations of paragraph 90 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 90 of the First Amended Complaint, and therefore denies the same.

91. The Accused MoCA Instrumentalities are compliant with MoCA 1.1., and/or 2.0, as described in the '213 Patent claim chart, Exhibit 8.

ANSWER: The allegations of paragraph 91 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 91 of the First Amended Complaint, and therefore denies the same.

92. Charter therefore directly infringes at least claim 1 of the '213 Patent by using the Accused MoCA Instrumentalities to provide Accused Services to customers.

ANSWER: Charter denies the allegations in paragraph 92 of the First Amended Complaint.

93. Charter sells the Accused Services to its customers and subscribers for a fee. Pursuant to the sale of these services, Charter uses the method recited in at least claim 1 of the '213 Patent to provide the Accused Services to Charter's customers and subscribers through the Accused MoCA Instrumentalities. Charter is therefore engaging in the infringing use of at least claim1 of the '213 Patent in order to generate revenue from its customers and subscribers.

ANSWER: Charter admits that it offers products and services to customers for a fee. Charter denies the remaining allegations in paragraph 93 of the First Amended Complaint. Charter further expressly denies any allegation of infringing on any claim of the '213 patent.

94. Charter directly infringes at least claim 1 of the '213 Patent when it, for example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise provide Accused Services.

ANSWER: Charter denies the allegations in paragraph 94 of the First Amended Complaint.

95. Charter had knowledge of '213 Patent no later than its receipt of Entropic's communications sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. *See* Exhibit A. Charter denies the remaining allegations in paragraph 95 of the First Amended Complaint.

96. Charter has been aware that it infringes the '213 Patent no later than its receipt of Entropic's communications sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. *See* Exhibit A. Charter denies the remaining allegations in paragraph 96 of the First Amended Complaint.

97. Charter has known of or has been willfully blind to the '213 Patent since before the April 27, 2022 communications from Entropic.

ANSWER: Charter denies the allegations in paragraph 97 of the First Amended Complaint.

98. The '213 Patent issued while or before Charter was a member of MoCA.

ANSWER: Charter denies the allegations in paragraph 98 of the First Amended Complaint.

99. Because of Charter's knowledge of Entropic Inc.'s work and contributions related to MoCA technology, Charter had knowledge of the '213 Patent before April 27, 2022 or was willfully blind to its existence.

ANSWER: Charter denies the allegations in paragraph 99 of the First Amended Complaint.

100. The claims of the '213 Patent are essential to practicing at least MoCA standards versions 1.1, and/or 2.0.

ANSWER: The allegations of paragraph 100 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 100 of the First Amended Complaint, and therefore denies the same.

101. Charter knew, or was willfully blind to the fact that the technology of the '213 Patent directly relates to networking over coaxial cable, including MoCA, at least as early as Charter became aware of the existence of the '213 Patent. Because of its familiarity with, and access to, the MoCA standards, Charter knew, or was willfully blind to the fact, that use (by Charter or its customers) of instrumentalities compliant with MoCA 1.1, and/or 2.0 to deliver Charter services would necessarily infringe one or more claims of the '213 Patent.

ANSWER: Charter denies the allegations in paragraph 101 of the First Amended Complaint.

102. Since learning of the '213 Patent and its infringing activities, Charter has failed to cease its infringing activities.

ANSWER: Charter denies the allegations in paragraph 102 of the First Amended Complaint.

103. Charter's customers and subscribers directly infringe at least claim 1 of the '213 Patent by using the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter.

ANSWER: Charter denies the allegations in paragraph 103 of the First Amended Complaint.

104. Charter actively induces its customers' and subscribers' direct infringement by providing the Accused Services and associated support.

ANSWER: Charter denies the allegations in paragraph 104 of the First Amended Complaint.

105. For example, Charter actively induces infringement of at least claim 1 of the '213 Patent by providing the Accused MoCA Instrumentalities to Charter customers with specific instructions and/or assistance (including installation and maintenance) regarding the instantiation of a MoCA network and the use of the Accused MoCA Instrumentalities to infringe the '213 Patent.

ANSWER: Charter denies the allegations in paragraph 105 of the First Amended Complaint.

106. Charter aids, instructs, supports, and otherwise acts with, the intent to cause an end user to make and/or use the MoCA network and/or use the Accused MoCA Instrumentalities to infringe every element of at least claim 1 of the '213 Patent.

ANSWER: Charter denies the allegations in paragraph 106 of the First Amended Complaint.

107. Additionally, Charter contributes to the customers' and subscribers' direct infringement. Charter provides at least the Accused MoCA Instrumentalities that create and are at least substantially all of a MoCA network to be used to infringe at least claim 1 of the '213 Patent.

ANSWER: Charter denies the allegations in paragraph 107 of the First Amended Complaint.

108. The Accused MoCA Instrumentalities have no substantial noninfringing uses. When an end user uses the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter, the end user directly infringes at least claim 1 of the '213 Patent. The Accused MoCA Instrumentalities are therefore especially made or especially adapted for use in an infringing manner.

ANSWER: Charter denies the allegations in paragraph 108 of the First Amended Complaint.

109. Charter's inducement of, and contribution to, the direct infringement of at least claim 1 of the '213 Patent has been, and is, continuous and ongoing through the acts described above in connection with Charter's provision of the Accused Services.

ANSWER: Charter denies the allegations in paragraph 109 of the First Amended Complaint.

110. Charter's infringement of the '213 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under the patent.

ANSWER: Charter denies the allegations in paragraph 110 of the First Amended Complaint.

111. Entropic has been damaged as a result of the infringing conduct alleged above. Charter is liable to Entropic in an amount that compensates Entropic for Charter's infringement,

which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

ANSWER: Charter denies the allegations in paragraph 111 of the First Amended Complaint.

112. Upon information and belief, there is no duty to mark any instrumentality with the '213 Patent in accordance with 35 U.S.C. § 287(a).

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 112 of the First Amended Complaint, and therefore denies the same.

COUNT II

(Infringement of the '422 Patent)

113. Entropic incorporates by reference each allegation of Paragraphs 1 through 112.

ANSWER: Charter repeats and realleges as if fully set forth herein its responses to allegations in paragraph 1 to 112 of the First Amended Complaint.

114. The '422 Patent duly issued on October 1, 2019 from an application filed December 5, 2017, an application filed February 6, 2008, and, *inter alia*, a provisional application filed February 6, 2007.

ANSWER: Charter admits that the face of the '422 patent bears an issue date of October 1, 2019, a filing date of December 5, 2017, and lists related application data including an application filed February 6, 2008, and a provisional application filed February 6, 2007. Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 114 of the First Amended Complaint, and therefore denies the same.

115. Entropic owns all substantial rights, interest, and title in and to the '422 Patent, including the sole and exclusive right to prosecute this action and enforce the '422 Patent against infringers, and to collect damages for all relevant times.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 115, and therefore denies the same

116. The '422 Patent is one of the PQoS Flows Patents, and is generally directed to, *inter alia*, low-cost and high-speed management of resources within a network in order to secure the capability to distribute multimedia data (such as video/audio, games, images, generic data, and interactive services) between devices within existing on premises coaxial cable networks. '422 Patent, col. 3, lines 53-60. The '422 Patent has 20 claims, of which, claims 1, 5, 12-17 are independent. At least these claims of the '422 Patent are directed to a variety of techniques for allocating resources for guaranteed quality of service flows in the MoCA network. A true and accurate copy of the '422 Patent is attached hereto as Exhibit 9.

ANSWER: Charter admits that Exhibit 9 purports to be a copy of the '422 patent. Charter admits that the '422 patent has 20 claims on its face and that claims 1, 5, and 12-17 on the face of the '422 patent are independent claims. Charter denies the remaining allegations in paragraph 116.

117. The '422 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter denies the allegations in paragraph 117.

118. The '422 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter admits that under 35 U.S.C. § 282, “[a] patent shall be presumed valid.” Charter denies the remaining allegations in paragraph 118.

119. Charter deploys one or more of the Accused MoCA Instrumentalities (e.g. Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, Charter Arris DCX3200, Charter Arris DCX3220) in connection with operating and providing the Accused Services.

ANSWER: The allegations of paragraph 119 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 119 of the First Amended Complaint, and therefore denies the same.

120. The Accused MoCA Instrumentalities deployed by Charter to customer premises remain the property of Charter while deployed.

ANSWER: The allegations of paragraph 120 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 120 of the First Amended Complaint, and therefore denies the same.

121. The Accused MoCA Instrumentalities operate while deployed in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 121 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 121 of the First Amended Complaint, and therefore denies the same.

122. As set forth in the attached non-limiting claim chart (Exhibit 10), any product or system operating in a MoCA network compliant with the charted provisions of MoCA 1.1, or 2.0 necessarily infringes at least claim 1 of the ’422 Patent.

ANSWER: Charter admits that Exhibit 10 purports to be an “Exemplary Infringement Chart” relating to the ’422 patent. Charter denies the remaining allegations in paragraph 122 of the

First Amended Complaint. Charter further expressly denies any allegation of infringing on any claim of the '422 patent.

123. Each aspect of the functioning of the Accused MoCA Instrumentalities described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 123 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 123, and therefore denies the same.

124. Charter provides no software, support or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused MoCA Instrumentalities while deployed to customer premises.

ANSWER: The allegations of paragraph 124 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 124, and therefore denies the same.

125. The Accused MoCA Instrumentalities are compliant with MoCA 1.1. and/or MoCA 2.0, as described in the '422 Patent claim chart, Exhibit 10.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 125, and therefore denies the same.

126. Charter therefore directly infringes at least claim 1 of the '422 Patent by using the Accused MoCA Instrumentalities to provide Accused Services to customers.

ANSWER: Charter denies the allegations in paragraph 126 of the First Amended Complaint.

127. Charter directly infringes at least claim 1 of the '422 Patent when it, for example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise provide Accused Services.

ANSWER: Charter denies the allegations in paragraph 127 of the First Amended Complaint.

128. Charter directly infringes at least claim 1 of the '422 Patent by making, importing, selling, and/or offering for sale the Accused MoCA Instrumentalities in connection with providing the Accused Services over an on-premises coaxial cable network, which meets every limitation of at least claim 1 of the '422 Patent.

ANSWER: Charter denies the allegations in paragraph 128 of the First Amended Complaint.

129. Charter had knowledge of the '422 Patent no later than its receipt of Entropic's communications sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. *See* Exhibit A. Charter denies the remaining allegations in paragraph 129 of the First Amended Complaint.

130. Charter has been aware that it infringes the '422 Patent no later than its receipt of Entropic's communications sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. Charter denies the remaining allegations in paragraph 130 of the First Amended Complaint.

131. Charter has known of or has been willfully blind to the '422 Patent since before the April 27, 2022 communications from Entropic.

ANSWER: Charter denies the allegations in paragraph 131 of the First Amended Complaint.

132. Because of Charter's knowledge of Entropic Inc.'s work and contributions related to MoCA technology, Charter had knowledge of the '422 Patent before April 27, 2022 or was willfully blind to its existence.

ANSWER: Charter denies the allegations in paragraph 132 of the First Amended Complaint.

133. The claims of the '422 Patent are essential to practicing at least MoCA standards versions 1.1, and/or 2.0.

ANSWER: The allegations of paragraph 133 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 133, and therefore denies the same.

134. Charter knew, or was willfully blind to the fact that the technology of the '422 Patent directly relates to networking over coaxial cable, including MoCA, at least as early as Charter became aware of the existence of the '422 Patent. Because of its familiarity with, and access to, the MoCA standards, Charter knew, or was willfully blind to the fact, that use (by Charter or its customers) of instrumentalities compliant with MoCA 1.1, and/or 2.0 to deliver Charter services would necessarily infringe one or more claims of the '422 Patent.

ANSWER: Charter denies the allegations in paragraph 134 of the First Amended Complaint.

135. Since learning of the '422 Patent and its infringing activities, Charter has failed to cease its infringing activities.

ANSWER: Charter denies the allegations in paragraph 135 of the First Amended Complaint.

136. Charter's customers and subscribers directly infringe at least claim 1 of the '422 Patent by using the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter.

ANSWER: Charter denies the allegations in paragraph 136 of the First Amended Complaint.

137. Charter actively induces its customers' and subscribers' direct infringement by providing the Accused Services and associated support.

ANSWER: Charter denies the allegations in paragraph 137 of the First Amended Complaint.

138. For example, Charter actively induces infringement of at least claim 1 of the '422 Patent by providing the Accused MoCA Instrumentalities to Charter customers with specific instructions and/or assistance (including installation and maintenance) regarding the instantiation of a MoCA network and the use of the Accused MoCA Instrumentalities to infringe the '422 Patent.

ANSWER: Charter denies the allegations in paragraph 138 of the First Amended Complaint.

139. Charter aids, instructs, supports, and otherwise acts with the intent to cause an end user to make and/or use the MoCA network and/or use the Accused MoCA Instrumentalities to infringe every element of at least claim 1 of the '422 Patent.

ANSWER: Charter denies the allegations in paragraph 139 of the First Amended Complaint.

140. Additionally, Charter contributes to the customers' and subscribers' direct infringement. Charter provides at least the Accused MoCA Instrumentalities that create and are at least substantially all of a MoCA network to be used to infringe at least claim 1 of the '422 Patent.

ANSWER: Charter denies the allegations in paragraph 140 of the First Amended Complaint.

141. The Accused MoCA Instrumentalities have no substantial noninfringing uses. When an end user uses the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter, the end user directly infringes at least claim 1 of the '422 Patent. The Accused MoCA Instrumentalities are therefore especially made or especially adapted for use in an infringing manner.

ANSWER: Charter denies the allegations in paragraph 141 of the First Amended Complaint.

142. Charter's inducement of, and contribution to, the direct infringement of at least claim 10 of the '422 Patent has been, and is, continuous and ongoing through the acts described above in connection with Charter's provision of the Accused Services.

ANSWER: Charter denies the allegations in paragraph 142 of the First Amended Complaint.

143. Charter's infringement of the '422 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under the patent.

ANSWER: Charter denies the allegations in paragraph 143 of the First Amended Complaint.

144. Entropic has been damaged as a result of the infringing conduct alleged above. Charter is liable to Entropic in an amount that compensates Entropic for Charter's infringement,

which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

ANSWER: Charter denies the allegations in paragraph 144 of the First Amended Complaint.

145. Upon information and belief, this is no duty to mark any instrumentality with the '422 Patent in accordance with 35 U.S.C. § 287.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 145 of the First Amended Complaint, and therefore denies the same.

COUNT III

(Infringement of the '910 Patent)

146. Entropic incorporates by reference each allegation of Paragraphs 1 through 145.

ANSWER: Charter repeats and realleges as if fully set forth herein its responses to allegations in paragraph 1 to 145 of the First Amended Complaint.

147. The '910 Patent duly issued on July 24, 2012 from an application filed May 9, 2008, and a provisional application filed May 9, 2007.

ANSWER: Charter admits that the face of the '910 patent bears an issue date of July 24, 2012, a filing date of May 9, 2008, and lists related application data including a provisional application filed on May 9, 2007. Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 147, and therefore denies the same.

148. Entropic owns all substantial rights, interest, and title in and to the '910 Patent, including the sole and exclusive right to prosecute this action and enforce the '910 Patent against infringers, and to collect damages for all relevant times.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 148, and therefore denies the same

149. The '910 Patent is the Packet Aggregation Patent, and is generally directed to, *inter alia*, transmitting data over a network, where the transmitting device aggregates packets that are directed to a common destination node. This reduces the transmitted packet overhead of the network by eliminating interframe gaps, preamble information, and extra headers. '910 Patent, col. 1, line 66 - col. 2, line 3. The '910 Patent has three claims, all of which are independent. At least these claims of the '910 Patent are directed to a variety of techniques for aggregating packet data units in the MoCA network. A true and accurate copy of the '910 Patent is attached hereto as Exhibit 3.

ANSWER: Charter admits that Exhibit 3 purports to be a copy of the '910 patent. Charter admits that the '910 patent has three claims on its face and that all three claims on the face of the '910 patent are independent claims. Charter denies the remaining allegations in paragraph 149.

150. The '910 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter denies the allegations in paragraph 150.

151. The '910 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter admits that under 35 U.S.C. § 282, “[a] patent shall be presumed valid.” Charter denies the remaining allegations in paragraph 151.

152. Charter deploys one or more of the Accused MoCA Instrumentalities (e.g. Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, Charter Arris DCX3200, Charter Arris DCX3220) in connection with operating and providing the Accused Services.

ANSWER: The allegations of paragraph 152 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 152 of the First Amended Complaint, and therefore denies the same.

153. The Accused MoCA Instrumentalities deployed by Charter to customer premises remain the property of Charter while deployed.

ANSWER: The allegations of paragraph 153 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 153 of the First Amended Complaint, and therefore denies the same.

154. The Accused MoCA Instrumentalities operate while deployed in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 154 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 154 of the First Amended Complaint, and therefore denies the same.

155. As set forth in the attached non-limiting claim chart (Exhibit 4), any product or system operating in a MoCA network compliant with the charted provisions of MoCA 1.1, or 2.0 necessarily infringes at least claim 3 of the ’910 Patent.

ANSWER: Charter admits that Exhibit 4 purports to be an “Exemplary Infringement Chart” relating to the ’910 patent. Charter denies the remaining allegations in paragraph 155 of the

First Amended Complaint. Charter further expressly denies any allegation of infringing on any claim of the '910 patent.

156. Each aspect of the functioning of the Accused MoCA Instrumentalities described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 156 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 156, and therefore denies the same.

157. Charter provides no software, support or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused MoCA Instrumentalities while deployed to customer premises.

ANSWER: The allegations of paragraph 157 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 157, and therefore denies the same.

158. The Accused MoCA Instrumentalities are compliant with MoCA 1.1, and/or MoCA 2.0, as described in the '910 Patent claim chart, Exhibit 4.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 158, and therefore denies the same.

159. Charter therefore directly infringes at least claim 3 of the '910 Patent by using the Accused MoCA Instrumentalities to provide Accused Services to customers.

ANSWER: Charter denies the allegations in paragraph 159 of the First Amended Complaint.

160. Charter directly infringes at least claim 3 of the '910 Patent when it, for example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise provide Accused Services.

ANSWER: Charter denies the allegations in paragraph 160 of the First Amended Complaint.

161. Charter directly infringes at least claim 3 of the '910 Patent by making, importing, selling, and/or offering for sale the Accused MoCA Instrumentalities, which meet every limitation of at least claim 3 of the '910 Patent, in connection with providing the Accused Services over an on-premises coaxial cable network.

ANSWER: Charter denies the allegations in paragraph 161 of the First Amended Complaint.

162. Charter had knowledge of the '910 Patent no later than its receipt of Entropic's communications sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. Charter denies the remaining allegations in paragraph 162 of the First Amended Complaint.

163. Charter has been aware that it infringes the '910 Patent no later than its receipt of Entropic's communication sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. Charter denies the remaining allegations in paragraph 163 of the First Amended Complaint.

164. Charter has known of or has been willfully blind to the '910 Patent since before the April 27, 2022 communications from Entropic.

ANSWER: Charter denies the allegations in paragraph 164 of the First Amended Complaint.

165. The '910 Patent issued while or before Charter was a member of MoCA.

ANSWER: Charter denies the allegations in paragraph 165 of the First Amended Complaint.

166. Because of Charter's knowledge of Entropic Inc.'s work and contributions related to MoCA technology, Charter had knowledge of the '910 Patent before April 27, 2022 or was willfully blind to its existence.

ANSWER: Charter denies the allegations in paragraph 166 of the First Amended Complaint.

167. The claims of the '910 Patent are essential to practicing at least MoCA standards versions 1.1, and/or 2.0.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 167 of the First Amended Complaint, and therefore denies the same.

168. Charter knew, or was willfully blind to the fact that the technology of the '910 Patent directly relates to networking over coaxial cable, including MoCA, at least as early as Charter became aware of the existence of the '910 Patent. Because of its familiarity with, and access to, the MoCA standards, Charter knew, or was willfully blind to the fact, that use (by Charter or its customers) of instrumentalities compliant with MoCA 1.1, and/or 2.0 to deliver Charter services would necessarily infringe one or more claims of the '910 Patent.

ANSWER: Charter denies the allegations in paragraph 168 of the First Amended Complaint.

169. Since learning of the '910 Patent and its infringing activities, Charter has failed to cease its infringing activities.

ANSWER: Charter denies the allegations in paragraph 169 of the First Amended Complaint.

170. Charter's customers and subscribers directly infringe at least claim 3 of the '910 Patent by using the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter.

ANSWER: Charter denies the allegations in paragraph 170 of the First Amended Complaint.

171. Charter actively induces its customers' and subscribers' direct infringement by providing the Accused Services through the Accused MoCA Instrumentalities, and associated support.

ANSWER: Charter denies the allegations in paragraph 171 of the First Amended Complaint.

172. For example, Charter actively induces infringement of at least claim 3 of the '910 Patent by providing the Accused MoCA Instrumentalities to Charter customers with specific instructions and/or assistance (including installation and maintenance) regarding the instantiation of a MoCA network and the use of the Accused MoCA Instrumentalities to infringe the '910 Patent.

ANSWER: Charter denies the allegations in paragraph 172 of the First Amended Complaint.

173. Charter aids, instructs, supports, and otherwise acts with the intent to cause an end user to make and/or use the MoCA network and/or use the Accused MoCA Instrumentalities to infringe every element of at least claim 3 of the '910 Patent.

ANSWER: Charter denies the allegations in paragraph 173 of the First Amended Complaint.

174. Additionally, Charter contributes to the customers' and subscribers' direct infringement. Charter provides, *inter alia*, the Accused MoCA Instrumentalities designed and configured to create a MoCA network and operate as nodes in the network, the use of which infringes at least claim 3 of the '910 Patent.

ANSWER: Charter denies the allegations in paragraph 174 of the First Amended Complaint.

175. The Accused MoCA Instrumentalities have no substantial noninfringing uses. When an end user uses the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter, the end user directly infringes at least claim 3 of the '910 Patent. The Accused MoCA Instrumentalities are therefore especially made or especially adapted for use in an infringing manner.

ANSWER: Charter denies the allegations in paragraph 175 of the First Amended Complaint.

176. Charter's inducement of, and contribution to, the direct infringement of at least claim 3 of the '910 Patent has been, and is, continuous and ongoing through the acts described above in connection with Charter's provision of the Accused Services.

ANSWER: Charter denies the allegations in paragraph 176 of the First Amended Complaint.

177. Charter's infringement of the '910 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under the patent.

ANSWER: Charter denies the allegations in paragraph 177 of the First Amended Complaint.

178. Entropic has been damaged as a result of the infringing conduct alleged above. Charter is liable to Entropic in an amount that compensates Entropic for Charter's infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

ANSWER: Charter denies the allegations in paragraph 178 of the First Amended Complaint.

179. Entropic is aware of no obligation to mark any instrumentality with the '910 Patent in accordance with 35 U.S.C. § 287.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 179 of the First Amended Complaint, and therefore denies the same.

COUNT IV

(Infringement of the '0'566 Patent)

180. Entropic incorporates by reference each allegation of Paragraphs 1 through 179.

ANSWER: Charter repeats and realleges as if fully set forth herein its responses to allegations in paragraph 1 to 179 of the First Amended Complaint.

181. The '0,566 Patent duly issued on November 27, 2012 from an application filed October 15, 2009, and, *inter alia*, a provisional application filed October 16, 2008.

ANSWER: Charter admits that the face of the '0,566 patent bears an issue date of November 27, 2012, a filing date of October 15, 2009, and lists related application data including a provisional application filed on October 16, 2008. Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 181, and therefore denies the same.

182. Entropic owns all substantial rights, interest, and title in and to the '0,566 Patent, including the sole and exclusive right to prosecute this action and enforce the '0,566 Patent against infringers, and to collect damages for all relevant times.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 182, and therefore denies the same

183. The '0,566 Patent is the OFDMA Patent, and is generally directed to, *inter alia*, “allow[ing] multiple transmitting network devices to transmit under an orthogonal frequency divisional multiple access (OFDMA) mode to a receiving network device.” '0,566 Patent, Abstract. The '0,566 Patent has 18 claims, of which claims 1, 7, 13, and 16 are independent. At least these claims of the '0,566 Patent are directed to a variety of techniques for assigning communication resources to one or more nodes in the MoCA network. A true and accurate copy of the '0,566 Patent is attached hereto as Exhibit 1.

ANSWER: Charter admits that Exhibit 1 purports to be a copy of the '0,566 patent. Charter admits that the '0,566 patent has 22 claims on its face and that claims 1, 7, 13, and 16 on the face of the '0,566 patent are independent claims. Charter denies the remaining allegations in paragraph 183.

184. The '0,566 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter denies the allegations in paragraph 184.

185. The '0,566 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter admits that under 35 U.S.C. § 282, “[a] patent shall be presumed valid.” Charter denies the remaining allegations in paragraph 185.

186. Charter deploys one or more of the Accused MoCA Instrumentalities (e.g. Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, Charter Arris DCX3200, Charter Arris DCX3220) in connection with operating and providing the Accused Services.

ANSWER: The allegations of paragraph 186 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 186, and therefore denies the same.

187. The Accused MoCA Instrumentalities deployed by Charter to customer premises remain the property of Charter while deployed.

ANSWER: The allegations of paragraph 187 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 187, and therefore denies the same.

188. The Accused MoCA Instrumentalities operate while deployed in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 188 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 189, and therefore denies the same.

189. As set forth in the attached non-limiting claim chart (Exhibit 2), any product or system operating in a MoCA network compliant with the charted provisions of MoCA 2.0 necessarily infringes at least claim 1 of the '0,566 Patent.

ANSWER: Charter admits that Exhibit 2 purports to be an “Exemplary Infringement Chart” relating to the '0,566 patent. Charter denies the remaining allegations in paragraph 189 of the First Amended Complaint. Charter further expressly denies any allegation of infringing on any claim of the '0,566 patent.

190. Each aspect of the functioning of the Accused MoCA Instrumentalities described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 190 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 190, and therefore denies the same.

191. Charter provides no software, support or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused MoCA Instrumentalities while deployed to customer premises.

ANSWER: The allegations of paragraph 191 are too vague to be understood, and Charter therefore lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 191, and therefore denies the same.

192. The Accused MoCA Instrumentalities are compliant with MoCA 2.0, as described in the '0,566 Patent claim chart, Exhibit 2.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 192, and therefore denies the same.

193. Charter therefore directly infringes at least claim 1 of the '0,566 Patent by using the Accused MoCA Instrumentalities to provide Accused Services to customers.

ANSWER: Charter denies the allegations in paragraph 193 of the First Amended Complaint.

194. Charter sells the Accused Services to its customers and subscribers for a fee. Pursuant to the sale of these services, Charter uses the method recited in at least claim 1 of the '0,566 Patent to provide the Accused Services to Charter's customers and subscribers through the Accused MoCA Instrumentalities. Charter is therefore engaging in the infringing use of at least claim 1 of the '0,566 Patent in order to generate revenue from its customers and subscribers.

ANSWER: Charter admits that it offers products and services to customers for a fee. Charter denies the remaining allegations in paragraph 194 of the First Amended Complaint. Charter further expressly denies any allegation of infringing on any claim of the '0,566 patent.

195. Charter directly infringes at least claim 1 of the '0,566 Patent when it, for example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise provide Accused Services.

ANSWER: Charter denies the allegations in paragraph 195 of the First Amended Complaint.

196. Charter had knowledge of the '0,566 Patent no later than its receipt of Entropic's communications sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. Charter denies the remaining allegations in paragraph 196 of the First Amended Complaint.

197. Charter has been aware that it infringes the '0,566 Patent no later than its receipt of Entropic's communication sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. Charter denies the remaining allegations in paragraph 197 of the First Amended Complaint.

198. Charter has known of or has been willfully blind to the '0,566 Patent since before the April 27, 2022 communications from Entropic.

ANSWER: Charter denies the allegations in paragraph 198 of the First Amended Complaint.

199. The '0,566 Patent issued while or before Charter was a member of MoCA.

ANSWER: Charter denies the allegations in paragraph 199 of the First Amended Complaint.

200. Because of Charter's knowledge of Entropic Inc.'s work and contributions related to MoCA technology, Charter had knowledge of the '0,566 Patent before April 27, 2022 or was willfully blind to its existence.

ANSWER: Charter denies the allegations in paragraph 200 of the First Amended Complaint.

201. The claims of the '0,566 Patent are essential to practicing at least MoCA standards versions 1.1, and/or 2.0.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 201, and therefore denies the same.

202. Charter knew, or was willfully blind to the fact that the technology of the '0,566 Patent directly relates to networking over coaxial cable, including MoCA, at least as early as

Charter became aware of the existence of the '0,566 Patent. Because of its familiarity with, and access to, the MoCA standards, Charter knew, or was willfully blind to the fact, that use (by Charter or its customers) of instrumentalities compliant with MoCA 1.1, and/or 2.0 to deliver Charter services would necessarily infringe one or more claims of the '0,566 Patent.

ANSWER: Charter denies the allegations in paragraph 202 of the First Amended Complaint.

203. Since learning of the '0,566 Patent and its infringing activities, Charter has failed to cease its infringing activities.

ANSWER: Charter denies the allegations in paragraph 203 of the First Amended Complaint.

204. Charter's customers and subscribers directly infringe at least claim 1 of the '0,566 Patent by using the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter.

ANSWER: Charter denies the allegations in paragraph 204 of the First Amended Complaint.

205. Charter actively induces its customers' and subscribers' direct infringement by providing the Accused Services and associated support.

ANSWER: Charter denies the allegations in paragraph 205 of the First Amended Complaint.

206. For example, Charter actively induces infringement of at least claim 1 of the '0,566 Patent by providing the Accused MoCA Instrumentalities to Charter customers with specific instructions and/or assistance (including installation and maintenance) regarding the instantiation

of a MoCA network and the use of the Accused MoCA Instrumentalities to infringe the '0,566 Patent.

ANSWER: Charter denies the allegations in paragraph 206 of the First Amended Complaint.

207. Charter aids, instructs, supports, and otherwise acts with the intent to cause an end user to make and/or use the MoCA network and/or use the Accused MoCA Instrumentalities to infringe every element of at least claim 1 of the '0,566 Patent.

ANSWER: Charter denies the allegations in paragraph 207 of the First Amended Complaint.

208. Additionally, Charter contributes to the customers' and subscribers' direct infringement. Charter provides at least the Accused MoCA Instrumentalities that create and are at least substantially all of a MoCA network to be used to infringe at least claim 1 of the '0,566 Patent.

ANSWER: Charter denies the allegations in paragraph 208 of the First Amended Complaint.

209. The Accused MoCA Instrumentalities have no substantial noninfringing uses. When an end user uses the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter, the end user directly infringes at least claim 1 of the '0,566 Patent. The Accused MoCA Instrumentalities are therefore especially made or especially adapted for use in an infringing manner.

ANSWER: Charter denies the allegations in paragraph 209 of the First Amended Complaint.

210. Charter's inducement of, and contribution to, the direct infringement of at least claim 3 of the '0,566 Patent has been, and is, continuous and ongoing through the acts described above in connection with Charter's provision of the Accused Services.

ANSWER: Charter denies the allegations in paragraph 210 of the First Amended Complaint.

211. Charter's infringement of the '0,566 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under the patent.

ANSWER: Charter denies the allegations in paragraph 211 of the First Amended Complaint.

212. Entropic has been damaged as a result of the infringing conduct alleged above. Charter is liable to Entropic in an amount that compensates Entropic for Charter's infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

ANSWER: Charter denies the allegations in paragraph 212 of the First Amended Complaint.

213. Upon information and belief, there is no duty to mark any instrumentality with the '0,566 Patent in accordance with 35 U.S.C. § 287(a).

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 213, and therefore denies the same.

COUNT V

(Infringement of the '681 Patent)

214. Entropic incorporates by reference each allegation of Paragraphs 1 through 213.

ANSWER: Charter repeats and realleges as if fully set forth herein its responses to allegations in paragraph 1 to 213 of the First Amended Complaint.

215. The '681 Patent duly issued on January 29, 2013 from an application filed October 15, 2009 and, *inter alia*, a provisional application filed October 16, 2008.

ANSWER: Charter admits that the face of the '681 patent bears an issue date of January 29, 2013, a filing date of October 15, 2009, and lists related application data including a provisional application filed on October 16, 2008. Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 215, and therefore denies the same.

216. Entropic owns all substantial rights, interest, and title in and to the '681 Patent, including the sole and exclusive right to prosecute this action and enforce the '681 Patent against infringers, and to collect damages for all relevant times.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 216, and therefore denies the same

217. The '681 Patent is the Clock Sync Patent, and is generally directed to, *inter alia*, improving local clock time synchronization between a plurality of nodes in a communication network. '681 Patent, Abstract. The '681 Patent has 40 claims, of which claims 1, 11, 21, and 31 are independent. At least these claims of the '681 Patent are directed to a variety of techniques for clock synchronization for nodes in the MoCA network. A true and accurate copy of the '681 Patent is attached hereto as Exhibit 5.

ANSWER: Charter admits that Exhibit 5 purports to be a copy of the '681 patent. Charter admits that the '681 patent has 40 claims on its face and that claims 1, 11, 21, and 31 on

the face of the '681 patent are independent claims. Charter denies the remaining allegations in paragraph 217.

218. The '681 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter denies the allegations in paragraph 218.

219. The '681 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter admits that under 35 U.S.C. § 282, “[a] patent shall be presumed valid.” Charter denies the remaining allegations in paragraph 219.

220. Charter deploys one or more of the Accused MoCA Instrumentalities (e.g. Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, Charter Arris DCX3200, Charter Arris DCX3220) in connection with operating and providing the Accused Services.

ANSWER: The allegations of paragraph 220 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 220, and therefore denies the same.

221. The Accused MoCA Instrumentalities deployed by Charter to customer premises remain the property of Charter while deployed.

ANSWER: The allegations of paragraph 221 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 221, and therefore denies the same.

222. The Accused MoCA Instrumentalities operate while deployed in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 222 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 222, and therefore denies the same.

223. As set forth in the attached non-limiting claim chart (Exhibit 6), any product or system operating in a MoCA network compliant with the charted provisions of MoCA 2.0 necessarily infringes at least claim 1 of the '681 Patent.

ANSWER: Charter admits that Exhibit 6 purports to be an "Exemplary Infringement Chart" relating to the '681 patent. Charter denies the remaining allegations in paragraph 223 of the First Amended Complaint. Charter further expressly denies any allegation of infringing on any claim of the '681 patent.

224. Each aspect of the functioning of the Accused MoCA Instrumentalities described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 224 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 224, and therefore denies the same.

225. Charter provides no software, support or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused MoCA Instrumentalities while deployed to customer premises.

ANSWER: The allegations of paragraph 225 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 225, and therefore denies the same.

226. The Accused MoCA Instrumentalities are compliant with MoCA 2.0 described in the '681 Patent claim chart, Exhibit 6.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 226, and therefore denies the same.

227. Charter therefore directly infringes at least claim 1 of the '681 Patent by using the Accused MoCA Instrumentalities to provide Accused Services to customers.

ANSWER: Charter denies the allegations in paragraph 227 of the First Amended Complaint.

228. Charter sells the Accused Services to its customers and subscribers for a fee. Pursuant to the sale of these services, Charter uses the method recited in at least claim 1 of the '681 Patent to provide the Accused Services to Charter's customers and subscribers through the Accused MoCA Instrumentalities. Charter is therefore engaging in the infringing use of at least claim 1 of the '681 Patent in order to generate revenue from its customers and subscribers.

ANSWER: Charter admits that it offers products and services to customers for a fee. Charter denies the remaining allegations in paragraph 228 of the First Amended Complaint. Charter further expressly denies any allegation of infringing on any claim of the '681 patent.

229. Charter directly infringes at least claim 1 of the '681 Patent when it, for example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise provide Accused Services.

ANSWER: Charter denies the allegations in paragraph 229 of the First Amended Complaint.

230. Charter had knowledge of the '681 Patent no later than its receipt of Entropic's communications sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. Charter denies the remaining allegations in paragraph 230 of the First Amended Complaint.

231. Charter has been aware that it infringes the '681 Patent no later than its receipt of Entropic's communication sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. Charter denies the remaining allegations in paragraph 231 of the First Amended Complaint.

232. Charter has known of or has been willfully blind to the '681 Patent since before the April 27, 2022 communications from Entropic.

ANSWER: Charter denies the allegations in paragraph 232 of the First Amended Complaint.

233. The '681 Patent issued while or before Charter was a member of MoCA.

ANSWER: Charter denies the allegations in paragraph 233 of the First Amended Complaint.

234. Because of Charter's knowledge of Entropic Inc.'s work and contributions related to MoCA technology, Charter had knowledge of the '681 Patent before April 27, 2022 or was willfully blind to its existence.

ANSWER: Charter denies the allegations in paragraph 234 of the First Amended Complaint.

235. The claims of the '681 Patent are essential to practicing at least MoCA standards versions 1.1, and/or 2.0.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 236, and therefore denies the same.

236. Charter knew, or was willfully blind to the fact that the technology of the '681 Patent directly relates to networking over coaxial cable, including MoCA, at least as early as Charter became aware of the existence of the '681 Patent. Because of its familiarity with, and access to, the MoCA standards, Charter knew, or was willfully blind to the fact, that use (by Charter or its customers) of instrumentalities compliant with MoCA 1.1, and/or 2.0 to deliver Charter services would necessarily infringe one or more claims of the '681 Patent.

ANSWER: Charter denies the allegations in paragraph 237 of the First Amended Complaint.

237. Since learning of the '681 Patent and its infringing activities, Charter has failed to cease its infringing activities.

ANSWER: Charter denies the allegations in paragraph 238 of the First Amended Complaint.

238. Charter's customers and subscribers directly infringe at least claim 1 of the '681 Patent by using the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter.

ANSWER: Charter denies the allegations in paragraph 239 of the First Amended Complaint.

239. Charter actively induces its customers' and subscribers' direct infringement by providing the Accused Services and associated support.

ANSWER: Charter denies the allegations in paragraph 239 of the First Amended Complaint.

240. For example, Charter actively induces infringement of at least claim 1 of the '681 Patent by providing the Accused MoCA Instrumentalities to Charter customers with specific instructions and/or assistance (including installation and maintenance) regarding the instantiation of a MoCA network and the use of the Accused MoCA Instrumentalities to infringe the '681 Patent.

ANSWER: Charter denies the allegations in paragraph 240 of the First Amended Complaint.

241. Charter aids, instructs, supports, and otherwise acts with the intent to cause an end user to make and/or use the MoCA network and/or use the Accused MoCA Instrumentalities to infringe every element of at least claim 1 of the '681 Patent.

ANSWER: Charter denies the allegations in paragraph 241 of the First Amended Complaint.

242. Additionally, Charter contributes to the customers' and subscribers' direct infringement. Charter provides at least the Accused MoCA Instrumentalities that create and are at least substantially all of a MoCA network to be used to infringe at least claim 1 of the '681 Patent.

ANSWER: Charter denies the allegations in paragraph 242 of the First Amended Complaint.

243. The Accused MoCA Instrumentalities have no substantial noninfringing uses. When an end user uses the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter, the end user directly infringes at least claim 1 of the '681 Patent. The Accused MoCA Instrumentalities are therefore especially made or especially adapted for use in an infringing manner.

ANSWER: Charter denies the allegations in paragraph 243 of the First Amended Complaint.

244. Charter's inducement of, and contribution to, the direct infringement of at least claim 1 of the '681 Patent has been, and is, continuous and ongoing through the acts described above in connection with Charter's provision of the Accused Services.

ANSWER: Charter denies the allegations in paragraph 244 of the First Amended Complaint.

245. Charter's infringement of the '681 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under the patent.

ANSWER: Charter denies the allegations in paragraph 245 of the First Amended Complaint.

246. Entropic has been damaged as a result of the infringing conduct alleged above. Charter is liable to Entropic in an amount that compensates Entropic for Charter's infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

ANSWER: Charter denies the allegations in paragraph 246 of the First Amended Complaint.

247. Upon information and belief, there is no duty to mark any instrumentality with the '681 Patent in accordance with 35 U.S.C. § 287(a).

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 247, and therefore denies the same.

AFFIRMATIVE DEFENSES

1. Charter asserts the following defenses, without assuming the burden of proof when such burden would otherwise be on Entropic. In addition to the defenses described below, Charter specifically reserves all rights to assert additional defenses as additional information becomes available.

FIRST DEFENSE

(Failure to State a Claim)

2. Entropic fails to allege facts sufficient to state a claim upon which relief may be granted against Charter.

SECOND DEFENSE

(Non-Infringement)

3. Charter does not infringe and has not infringed, either literally or under the doctrine of equivalents, either directly or indirectly any valid and enforceable claim of any of the Patents-in-Suit.

THIRD DEFENSE

(Invalidity)

4. Each of the claims of the Patents-in-Suit are invalid for failure to satisfy one or more conditions for patentability set forth in 35 U.S.C. § 101 *et seq.*, including but not limited to sections 101, 102, 103, and 112, the applicable provisions of Title 37 of the Code of Federal Regulations, and judicially created bases for invalidation, such as double patenting.

FOURTH DEFENSE

(Equitable Doctrines)

5. Entropic's claim for damages is barred, or limited by, the equitable doctrine of estoppel arising from its failure to license the Asserted Patents on FRAND terms and failure to disclose material information, as discussed further below in Comcast's Sixth and Seventh Defenses. Entropic's claim is also barred or limited by waiver, and/or other equitable doctrines.

SIXTH DEFENSE

(FRAND Limitation based on MoCA)

6. To the extent Entropic's claims of infringement relate to a standard (*e.g.*, MoCA) that carries with it an obligation to license on fair, reasonable, and non-discriminatory ("FRAND") terms, Plaintiff (or its predecessor-in-interest) made a commitment to license the Patents-in-Suit pursuant to FRAND terms and Entropic's requested relief is limited by those obligations or commitments.

7. Upon joining MoCA, Entropic was "deemed to make the RAND commitment described in this Section 5.1 . . . with respect to Essential Patent Claims that are required to use, make, have made, offer for sale, sell and import Fully Compliant Products." IPR Policy § 5.1.1. This obligation was disclosed by Entropic Communications to the SEC: "we are required to license any of our patent claims that are essential to implement MoCA specifications to other MoCA members, who could potentially include our competitors, on reasonable and non-discriminatory licensing terms." Form 10-K at 43 (2014). Entropic's First Amended Complaint asserts that Entropic founded MoCA and that Charter and its predecessor-in-interest Time Warner Cable were members of MoCA as well. First Amended Complaint §§ 29, 53, and 54.

8. The MoCA IPR Policy further explains that any "Essential Patent Claim, or any patent or patent application that reasonably may contain or result in an Essential Patent Claim" which is transferred from a MoCA member to a third party "will still be made subject to this IPR Policy." IPR Policy § 5.1.2. Furthermore, in the event that an Alliance member terminates its membership: "(i) the terminated Alliance Party shall be entitled to request or require any Alliance Party to license such Alliance Party's Essential Patent Claims under Section 5.1 (RAND Licenses)" and "(iii) the terminated Alliance Party and its Affiliates shall, after such termination, continue to offer and to license to any other Alliance Parties the terminated Alliance Party's (and its Affiliates') Essential Patent Claims as provided in Sections 5.1 (RAND Licenses)." IPR Policy § 7.1.

9. Entropic's First Amended Complaint asserts that "[t]he claims of the [Patents-in-Suit] are essential to practicing at least MoCA standards versions 1.1, and/or 2.0." First Amended

Complaint ¶¶ 100, 133, 167, 201, and 235. Entropic’s First Amended Complaint also asserts that “[a]s set forth in the attached non-limiting claim chart[s] (Exhibit[s] 2, 4, 6, 8, and 10)), any product or system operating in a MoCA network compliant with the charted provisions of MoCA 1.0, 1.1, and/or 2.0 necessarily infringes at least claim 1 of [each of the Patents-in-Suit].” First Amended Complaint ¶¶ 88, 122, 155, 189, and 223.

10. Therefore, at least the claims identified in the First Amended Complaint for each of the Patents-in-Suit are Essential Patent Claims encumbered by Entropic’s obligation to offer and/or grant to Charter a license to its MoCA Essential Patent Claims based on FRAND terms and conditions and Entropic’s ability to recover damages for infringement is limited accordingly.

SEVENTH DEFENSE

(FRAND Limitation based on IEEE 1905.1)

11. To the extent Entropic’s claims of infringement relate to a standard (*e.g.*, IEEE Standard 1905.1) that carries with it an obligation to license on fair, reasonable, and non-discriminatory (“FRAND”) terms and Plaintiff (or its predecessor-in-interest) made a commitment to license the Patents-in-Suit pursuant to FRAND terms, Entropic’s requested relief is limited by those obligations or commitments.

12. The Institute of Electrical and Electronics Engineers (“IEEE”) is a standard-setting organization that produces globally applicable standards for local area networks. The IEEE requires its members to use reasonable endeavors to inform IEEE of patents that are essential to practicing its standards or technical specifications. Specifically, if any individual is aware of patent claims it believes might be Essential Patent Claims to practicing the standard, “that fact should be made known to the entire working group and duly recorded in the minutes of the working group meeting.” IEEE SA Standards Board Operations Manual § 6.3.2.

13. Upon receiving notice that IEEE Standard may require the use of a potential Essential Patent Claim, “the IEEE shall request licensing assurance, on the IEEE SA Standards Board approved Letter of Assurance form (PDF), from the patent holder or patent applicant.” Standards

Board Bylaws § 6.2. The letter of assurance shall include either (1) a general disclaimer that the patent holder “will not enforce any present or future Essential Patent Claims against any person or entity making, having made, using, selling, offering to sell, or importing any Compliant Implementation that practices the Essential Patent Claims for use in conforming with the IEEE Standard;” or (2) a statement that the patent holder will provide a license to the Essential Patent Claims “without compensation or under Reasonable Rates, with other reasonable terms and conditions that are demonstrably free of any unfair discrimination to make, have made, use, sell, offer to sell, or import any Compliant Implementation that practices the Essential Patent Claims for use in conforming with the IEEE Standard.” *Id.*

14. IEEE Standard 1905.1 (“IEEE 1905.1”) entitled “IEEE Standard for a Convergent Digital Home Network for Heterogeneous Technologies,” defines an abstraction layer for multiple home network technologies.⁶ IEEE 1905.1 is a standard for intercommunication between in-home equipment, including over MoCA and WiFi. One of the key features of IEEE 1905.1 is end-to-end Quality of Service. For example, the standard states that “[t]he various DOCSIS protocol mechanisms described in this document can be used to support Quality of Service (QoS).” IEEE Std. 1905.1 § 8.1.

15. Entropic Communications, Inc., a predecessor-in-interest to the Patents-in-Suit, was a participant in the creation of IEEE 1905.1, having both submitted technical contributions or comments and participated in the vote to approve the standard. IEEE Std. 1905.1 at vi–vii (2013).

16. Entropic has not presently submitted a Letter of Assurance with regard to IEEE 1905.1, however, “no position is taken by the IEEE with respect to the existence or validity of any patent rights in connection therewith.” *Id.* at § 6.3.1. Therefore, Entropic’s failure to submit a Letter of Assurance regarding any of its patents, does not mean that Entropic patents are not essential with respect to IEEE 1905.1.

⁶ <https://ieeexplore.ieee.org/document/6502164>.

17. The procedures, protocols and guidelines of IEEE 1905.1 “provide network management features to address issues related to neighbor discovery, topology discovery, interface selection, QoS negotiation, and network control and management. IEEE Std. 1905.1 at 1.

18. IEEE 1905.1 discloses a “topology discovery protocol [which] enables a 1905.1 management entity to discover other 1905.1 devices and IEEE 802.1 bridges, and to populate a 1905.1 topology database. This protocol also enables notification of changes in network topology.” IEEE 1905.1 at 46. This topology discovery protocol “uses the multicast discovery procedure, the unicast topology query/response procedure, and the relayed multicast topology notification procedure to enable a 1905.1 management entity to discover the network topology.” *Id.* at 47. These procedures of the topology discovery protocol use messages including a “Topology discovery message (neighbor multicast),” an “IEEE 802.1 bridge discovery message (neighbor multicast),” a “Topology query message (unicast),” a “Topology response message (unicast),” and a “Topology notification message (relayed multicast).” *Id.* at 48.

19. The ’213 patent relates to a communication method for coordinating network resources for guaranteed QoS, similar to the management features of IEEE 1905.1. To the extent that Entropic’s claims of infringement relate to an IEEE 1905.1 standard that carries with it an obligation to license on FRAND terms, or the inventor or patentee made a commitment to license the ’213 patent pursuant to FRAND terms, Entropic’s monetary relief is limited by those obligations.

20. The ’422 patent relates to a communication network which requests parameterized quality of service flows from a Network Coordinator node. ’422 patent at Claim 1. A requesting node sends a request to the Network Coordinator node, which sends a message to each of the requested nodes and receives a response message from the requested nodes. *Id.* The Network Coordinator node then aggregates a list of parameterized quality of service flows received from the requested nodes and send a message containing this list to the requesting node. *Id.* This is similar to topology discovery protocol of IEEE 1905.1.

21. To the extent that Entropic's claims of infringement relate to an IEEE 1905.1 standard that carries with it an obligation to license on FRAND terms, or the inventor or patentee made a commitment to license the '422 patent pursuant to FRAND terms, Entropic's monetary relief is limited by those obligations.

EIGHTH DEFENSE

(Unenforceability due to Inequitable Conduct based on Failure to Disclose Relevant Conexant References)

22. Entropic's enforcement of at least the '681 and '0,566 patents, as alleged in the First Amended Complaint, is barred as a result of inequitable conduct in the procurement of each of these patents. The prosecution history of the Patents-in-Suit generally show a pattern of failure on the part of Entropic (and its predecessors-in-interest) and the named inventors in their duty of candor to the USPTO, including by failing to disclose material prior art in an attempt to deceive the USPTO regarding the patentability of the purported inventions claimed in the underlying applications. Entropic's failure to disclose material prior art during prosecution of at least the '681 and '0,566 patents renders these Patents-in-Suit unenforceable.

23. 37 C.F.R. § 1.56 provides, in pertinent part: "Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. ... [N]o patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct."

24. 37 C.F.R. § 1.56(c) provides, in pertinent part: "Individuals associated with the filing or prosecution of a patent application within the meaning of this section are: (1) Each inventor named in the application; (2) Each attorney or agent who prepares or prosecutes the application; and (3) Every other person who is substantively involved in the preparation of prosecution of the

application and who is associated with the inventor, the application, an assignee, or anyone to whom there is an obligation to assign the patent.”

25. Various inventors of the Patents-in-Suit, including Anton Monk, Brett Bernath, Itzhak Gurantz, Ladd El Wardani, and Magnus Breggren, were affiliated with Conexant Systems, Inc. in the late 90s and early 2000s, before joining Entropic. While at Conexant Systems, many of these inventors worked on prior-art systems involving data communications, including over cable and powerline networks. Several were named as inventors on prior-art patents based on their work at Conexant Systems. Despite this extensive experience, Entropic and its inventors identified virtually no prior art to the USPTO as relevant to any of the Patents-in-Suit, and in particular, with respect to the ’681 and ’0,566 patents. As a result, most of the Patents-in-Suit list only a few pieces of pertinent prior art on their face, nearly all of which was identified by the Examiner, not Entropic or the named inventors. In fact, for several of the Patents-in-Suit, Entropic did not submit an Information Disclosure Statement to the USPTO at all, and thus did not disclose any prior art to the USPTO. Yet upon information and belief, based on at least their prior work at Conexant Systems, Entropic’s employees, including the named inventors, were well aware of material prior art in the space of the purported inventions.

26. For instance, Mr. Bernath is a named inventor on several of the Patents-in-Suit. He is also listed as a named inventor on U.S. Patent No. 6,526,070 (the “’070 patent”). The ’070 Patent was filed on July 31, 2000, and was originally assigned to Conexant Systems. It discloses controlling the transmission of data using synchronized local clocks, including by exchanging a local clock time between a first node (e.g., a cable system head end) and a second node (e.g., a cable modem), setting the local clock time of the second node based on the exchanged local clock time, and performing a ranging method to determine an estimated propagation delay between the first and second node that can be used to synchronize the local clock time between the first and second nodes. *See, e.g.,* ’070 patent at 3:35-53.

27. At least asserted claim 1 of the ’681 Patent recites the same local clock synchronization procedure disclosed in the ’070 Patent. *See* ’681 Patent at claim 1 (“exchanging a local clock time

between a first node and a second node over the communication network ... performing a ranging method between the first and second nodes based on the local clock time exchanged, wherein the ranging method results in an estimated propagation delay between the first and second node ... adjusting the local clock time of either the first or second node based on the estimated propagation delay, thereby resulting in a synchronized local clock time between the first and second node”).

28. During prosecution of the ’681 patent, however, Entropic did not disclose any prior art to the USPTO at all, much less the ’070 patent or the underlying application. Upon information and belief (and reasonable inference based on a consistent pattern of not providing prior art disclosures to the USPTO), Entropic omitted this information with an intent to deceive the USPTO regarding the patentability of the claims in the underlying patent application that issued as the ’681 Patent. Thus, but for Entropic’s failure to disclose this material information, the claims of the ’681 patent would not have been allowed. Entropic’s enforcement of at least ’681 Patent claim 1, as alleged in the First Amended Complaint is accordingly barred as a result of inequitable conduct in its procurement.

29. On information and belief, based on their involvement in similar technologies working at Conexant Systems, the inventors were, or should have been, aware of related prior art systems and publications at Conexant Systems relevant to the putative inventions in the Patents-in-Suit. For example, U.S. Patent No. 6,570,915 (the “’915 patent”), for which the underlying application was filed on July 31, 2000, and was originally assigned to Conexant Systems. The ’915 Patent discloses transmitting probe messages across a data communication network and analyzing the received probe messages to determine channel characteristics. *See, e.g.*, ’915 Patent at Abstract (“After receiving the discovery response message, DTU-C transmits a probe message to DTU-R followed by a probe signal. DTU-R measures the line quality while receiving the probe Signal. After receiving the probe signal, DTU-R transmits a probe signal to DTU-C, using which signal DTU-C measures the line quality. After transmitting the probe signal, DTU-R transmits a probe response message, including line quality measurements performed by DTU-R.”).

30. Conexant Systems was the assignee of the application that issued as U.S. Patent No. 5,751,701 (the “’701 patent”). That patent application was filed on July 19, 1996. The ’701 patent discloses (and in fact claims) performing frequency division multiplexing by using pseudorandom noise to synchronize and transmit data. *See, e.g.*, ’701 Patent at Claim 1 (“frequency division multiplexer means for providing frequency division multiplexing, ... a pseudorandom noise (‘PN’) generator for generating a PN, said PN being utilized by said rate negotiation means for both correlation and high data rate transmission”).

31. Asserted claim 1 from the ’0,566 patent similarly recites using pseudorandom noise in frequency division multiplexing as part of negotiating transmissions. During prosecution of the ’0,566 patent, however, Entropic did not disclose any prior art to the USPTO at all, much less the ’701 patent, or its underlying application. Thus, but for Entropic’s failure to disclose this material information, the claims of the ’0,566 patent would not have been allowed.

32. Upon information and belief (and reasonable inference based on a consistent pattern of not providing prior art disclosures to the USPTO), Entropic (and its predecessors-in-interest) omitted this information with an intent to deceive the USPTO regarding the patentability of the claims in the underlying patent application that issued as the ’0,566 Patent. Entropic’s enforcement of at least ’0,566 Patent claim 1, as alleged in the First Amended Complaint is accordingly barred as a result of inequitable conduct in its procurement.

33. But for Entropic’s failure to disclose this material information, the claims of at least the ’681 patent and ’0,566 patent would not have been allowed. Entropic’s conduct during the prosecution of these Patents-in-Suit constitutes inequitable conduct and renders these Patents-in-Suit unenforceable.

NINTH DEFENSE

(No Willful Infringement)

34. Entropic is not entitled to enhanced or increased damages for willful infringement because Charter has not engaged in any conduct that meets the standard for willful infringement (nor has Entropic alleged any such conduct).

RESERVATION OF RIGHTS

Charter specifically reserves the right to assert additional defenses permitted under the Federal Rules of Civil Procedure, the patent laws of the United States, the Local Rules of this District, and/or at law or in equity, as they may now exist, be discovered, or otherwise become available based on discovery and further investigation in this case.

PRAYER FOR RELIEF

WHEREFORE, Charter requests the following relief:

- A. Dismissal with prejudice of Plaintiff's First Amended Complaint in its entirety;
- B. Denial of all remedies sought by Entropic in this First Amended Complaint;
- C. Declaration that Charter does not infringe, has not infringed, any claim of the Patents-in-Suit, either directly or indirectly, literally or under the Doctrine of Equivalents, willfully or otherwise;
- D. Declaration that all claims of the Patents-in-Suit are invalid for failing to comply with one or more of the conditions of patentability set forth in Title 35 of the United States Code, including without limitation §§ 101, 102, 103, 112 and/or 116;
- E. Declaration that the Patents-in-Suit are unenforceable against Charter in whole or in part pursuant to the covenant not to sue, and under the doctrine of waiver, acquiescence, equitable estoppel, exhaustion, implied license, unclean hands, patent misuse, prosecution history estoppel, and/or Plaintiff's failure to comply with 35 U.S.C. § 287;

- F. Declaration that this case is exceptional and that Charter is entitled to an award of reasonable attorneys' fees pursuant to 35 U.S.C. § 285;
- G. In the event any of the Patents-in-Suit are found to be valid and infringed, a declaration of an appropriate FRAND royalty license and/or royalty free license to Plaintiff's purported essential patent rights; and
- H. Any such other and further relief as the Court deems just and fair.

DEMAND FOR JURY TRIAL

Charter demands a trial by jury on all issues so triable.

Dated: October 31, 2023

Respectfully submitted,

By: /s/ Krishnan Padmanabhan

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